

### REMARKS

Claims 1-37 are pending in this application, with Claims 2, 3, 5, 13, 14, 16, and 25-37 having been withdrawn from consideration. Claims 10, 11, 21, 22, and 24 have been canceled, without prejudice or disclaimer of subject matter. Claims 1, 4, 12, 15, 17-20, and 23 have been amended to define more clearly what Applicant regards as his invention. Claims 1, 12, and 23 are in independent form (of the claims currently under examination).

Figs. 16-28B have been designated by the label --PRIOR ART-- in response to the objections to the drawings as set out at paragraph 4 of the Office Action. Sheets of drawings including these changes are attached; these sheets replace the original sheets including Figs. 16-28B.

The title has been amended to make it more descriptive, as required in the Office Action. Applicant thanks the Examiner for his suggestion regarding the amended title.

Claims 1, 4, 6-12, 15, and 17-24 have been rejected under 35 U.S.C. § 112, first paragraph, for lack of enabling disclosure. Claim 1 has been amended herein to recite, in part, "discrimination means for discriminating based on a first arithmetic value obtained by said arithmetic means whether to apply said first or second segmentation means to the input moving image data". It is submitted that Claim 1, as amended, overcomes the rejection under Section 112, first paragraph. Claims 4, 12, 15, and 23 have been similarly amended along the same lines. Cancellation of Claim 10 renders the rejection of that claim moot.

For these reasons, it is believed that the Section 112 rejection has been overcome, and its withdrawal is respectfully requested.

Claims 1, 4, 8, 10-12, 15, 19, and 21-24 were rejected under 35 U.S.C. § 103(a) as being anticipated obvious from U.S. Patent 5,091,782 to Krause et al. in view of U.S. Patent 6,275,616 to Jahanghir et al.; and Claims 6, 7, 9, 17, 18, and 20, as being obvious from Krause et al. in view of Jahanghir et al., and further in view of U.S. Patent 6,704,455 to Yamazaki et al.

First, cancellation of Claims 10, 11, 21, 22, and 24 renders the rejections of those claims moot.

Claim 1 is directed to an image processing apparatus for encoding input moving image data. The apparatus includes first and second segmentation means, arithmetic means, and discrimination means. The first segmentation means makes subband segmentation of the input moving image data into in units of frames using wavelet transformation, and the second segmentation means makes subband segmentation of the input moving image data in units of fields using wavelet transformation. The arithmetic means makes an arithmetic process of first subbands obtained by the first segmentation means, and the discrimination means discriminates based on a first arithmetic value obtained by the arithmetic means whether to apply the first or second segmentation means to the input moving image data. A discrimination of the discrimination means is not performed on the basis of subbands obtained by the second segmentation means.

Notably, then, the apparatus of Claim 1 performs the discrimination by only

using subbands obtained by the first segmentation means (i.e., a frame subband segmentation means), independent of subbands obtained by the second segmentation means (i.e., field subband segmentation means). By virtue of the features of Claim 1, the processing load can be reduced, compared to systems which execute a discrimination on the basis of two kinds of subbands obtained by frame and field subband segmentation means. Support for this feature is found at, for example, pages 37-43 of the specification, as well as Fig. 7.<sup>1/</sup>

Krause et al., as understood by Applicant, relates to adaptively compressing successive blocks of digital video. In one application, digitized interlaced video signals are processed for transmission in a compressed form. A set of pixel data presented in a field format is compressed to provide a first compressed video signal. The set of pixel data is also presented in a frame format and compressed to provide a second compressed video signal. Errors are evaluated in the first and second compressed video signals. The compressed video signal having the least error is selected for further processing. The technique is repeated for successive sets of pixel data and the selected signals are encoded to identify them as field formatted or frame formatted signals. The encoded selected signals are then combined to provide a compressed video signal data stream for transmission.

Krause et al. apparently discusses determining either one of a frame

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<sup>1/</sup>It is of course to be understood that the references to various portions of the present application are by way of illustration and example only, and that the claims are not limited by the details shown in the portions referred to.

encoding or a field encoding for data on the basis of both a first subband transformed from an image in a frame unit and a second subband transformed from an image in a field unit. That is, in Krause et al., an encoding method is determined on the basis of two kinds of subbands, rather than only one kind of subband as in Claim 1. Thus, Krause et al. does not teach or suggest the features of Claim 1.

Jahanghir et al., as understood by Applicants, relates to converting a high definition image to a relatively lower definition image using wavelet transforms, and is cited by the Examiner as allegedly providing for wavelet transformation for both frames and fields. However, even if (assuming arguendo) Jahanghir et al. is deemed to teach all it is cited for, that patent would still not remedy the deficiencies of Krause et al. discussed above.

Accordingly, Claim 1 is seen to be clearly allowable over Krause et al. and Jahanghir et al., either separately or in any permissible combination (if any).

Independent Claims 12 and 23 are method and computer readable memory claims, respectively, corresponding to apparatus Claim 1, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

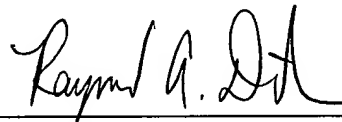
The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the

same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Raymond A. DiPerna", is written over a horizontal line.

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